


We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express

1ZTR1204002400

1	2	3	4	5	6						
						NOTES					
						REFERENCE DRAWINGS					
						DRAWING TITLE				DRAWING NO.	
						DRAWING CONTROL SHEET					
						AS-BUILT					
						BY _____ DATE 13.03.2014					
						04	13.03.2014	HD	FOUR MODIFICATION	GK	-
						03	26.01.2013	HD	THIRD MODIFICATION	GK	-
						02	31.10.2012	HD	SECOND MODIFICATION	GK	-
						01	22.08.2012	HD	FIRST MODIFICATION	GK	-
						00	05.04.2012	HD	FOR APPROVAL	GK	-
						REV. NO.	DATE	BY	DESCRIPTION	CHKD.	CERT. APPD.
<div><div>نقل الكهرباء National Grid SA</div></div>											
DRAWN BY _____ H.D. _____ CHECKED BY _____ GK _____ SCALE _____											
DATE STARTED 05.04.2012 DATE COMPLETED _____											
OPRG. DEPT. _____ ENG. DEPT. _____											
THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OR FOR ORDERING MATERIAL UNTIL CERTIFIED AND DATED				CERTIFIED							
				DDC NO. _____ REV. NO. _____							
CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES											
1ZTR1204002400											
S/S # 8179 AL-NAZEEM, IN RIYADH AREA (GT2)											
RIYADH SAUDI ARABIA											
JOB ORDER NO.		INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO. REV. NO.						
11131072/00		A	C418	-	01 of 34 05						
1	2	3	4	5	6						

We reserve all rights in this document and in the information contained therein.Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB

Page No	Description	Revision	Date
1	Title block	05	13/03/14
2	Index	05	13/03/14
3	Layout	02	31/10/12
4	Layout	03	26/01/13
5	Power circuit of supply voltage	03	13/03/14
6	Power circuit of supply voltage	03	26/01/13
7	Illumination, socket, heating	02	13/03/14
8	Control circuit of fan Group 1 motors	03	13/03/14
9	Control circuit of fan Group 2 motors	01	22/08/12
10	Protection relays of power transformer	03	13/03/14
11	Protection relays of power transformer	03	13/03/14
12	Protection relays of power transformer	04	13/03/14
13	Morgan Schaffer Calisto 2	02	26/01/13
14	Fiber optic sensor (T/Guard)	02	31/10/12
15	Remote signals	02	26/01/13
16	Current transformers	02	31/10/12
17	Current transformers	03	13/03/14
18	Device table	02	31/10/12
19	Device table	01	31/10/12
20	Device table	02	26/01/13
21	Terminals –X1	02	13/03/14
22	Terminals –X2	03	26/01/13
23	Terminals –X2	–	–
24	Terminals –X3	04	13/03/14

Page No	Description	Revision	Date
25	Terminals –X3	03	13/03/14
26	Terminals –X4	03	13/03/14
27	Terminals –X5	01	31/10/12
28	Terminals –X5	02	26/01/13
29	Terminals –X5	01	26/01/13
30	Terminals –X6	03	13/03/14
31	Terminals –X6	03	13/03/14
32	Terminals –X7	02	31/10/12
33	Terminals –X8	01	31/10/12
34	Terminals –X9	02	26/01/13

See drawing 1ZTR1204002401 which will be ready after manufacturing for marking of conductors.

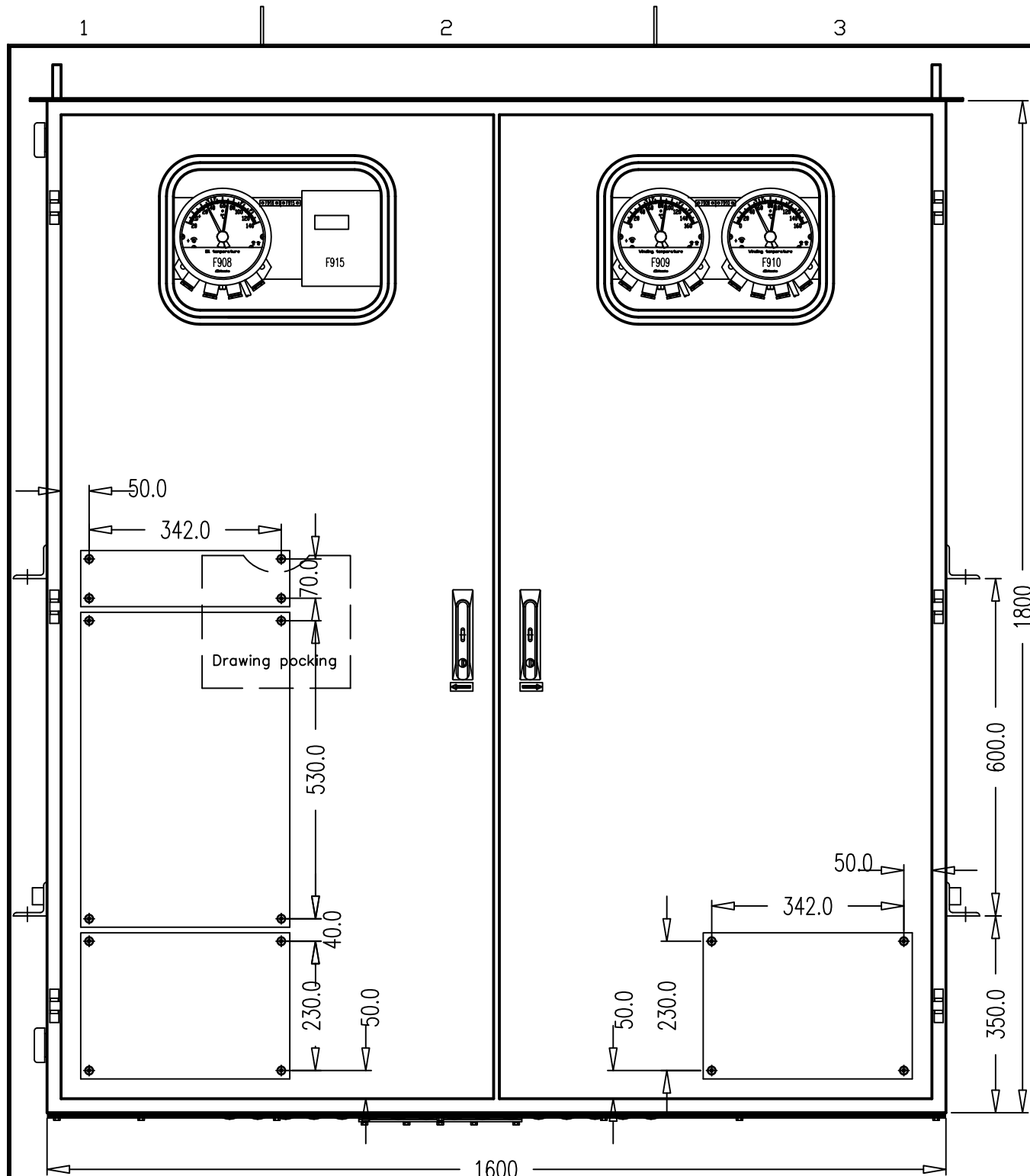
Index			
05	Index	–	13/03/14
04	Index	–	29/07/13
03	Index	–	26/01/13
02	Index	–	31/10/12
01	Index	–	22/08/12
Rev. ind.	Revision	Appd.	Date

Production engineering review
Inspection engineering review
Design engineering review

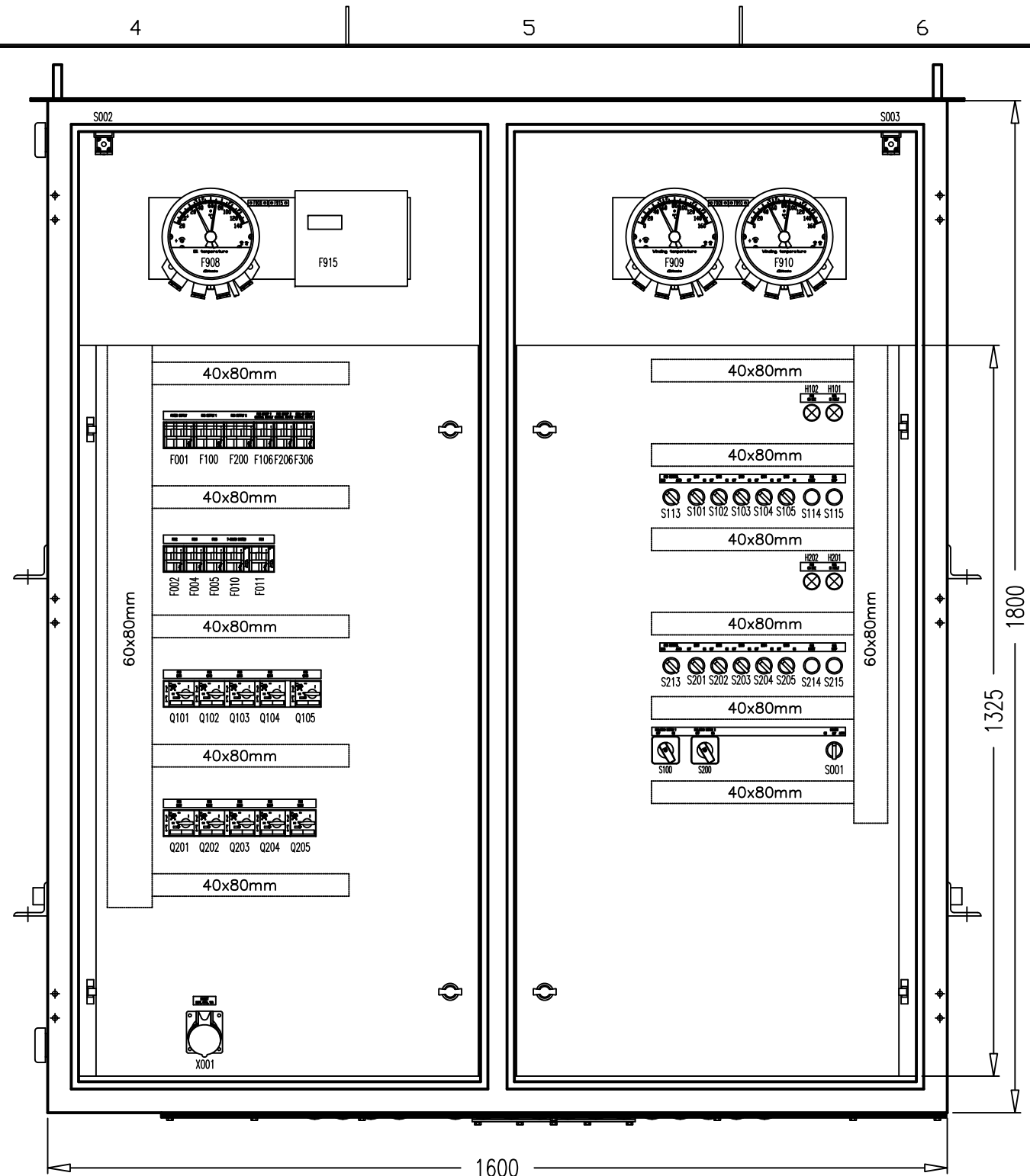
ABB ELEKTRIK SANAYI A.S.			
Based on	Reg.No.	CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department		Language en
Revision 05		Order No. 1ZTR120400	Sheet 02
<b>ABB</b> ABB Transformers		Drawing No. 1ZTR1204002400	Cont. 03

1ZTR1204002400

We reserve all rights in this document and in the information contained therein.Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB



FRONT VIEW



INNER DOOR VIEW

NOTES:

1-PAINING:

RAL : 7038

2-DIMENSIONS: 1800X1600X400

mm (HxWxD)

3-DEGREE OF PROTECTION: IP 55

4-THICKNESS OF PANEL: 2.5 mm

(STEEL)

Layout

02	View Changed	-	31/10/12
01	F306 Added	-	22/08/12
Rev. ind.	Revision	Appd.	Date

Production engineering review

Inspection engineering review

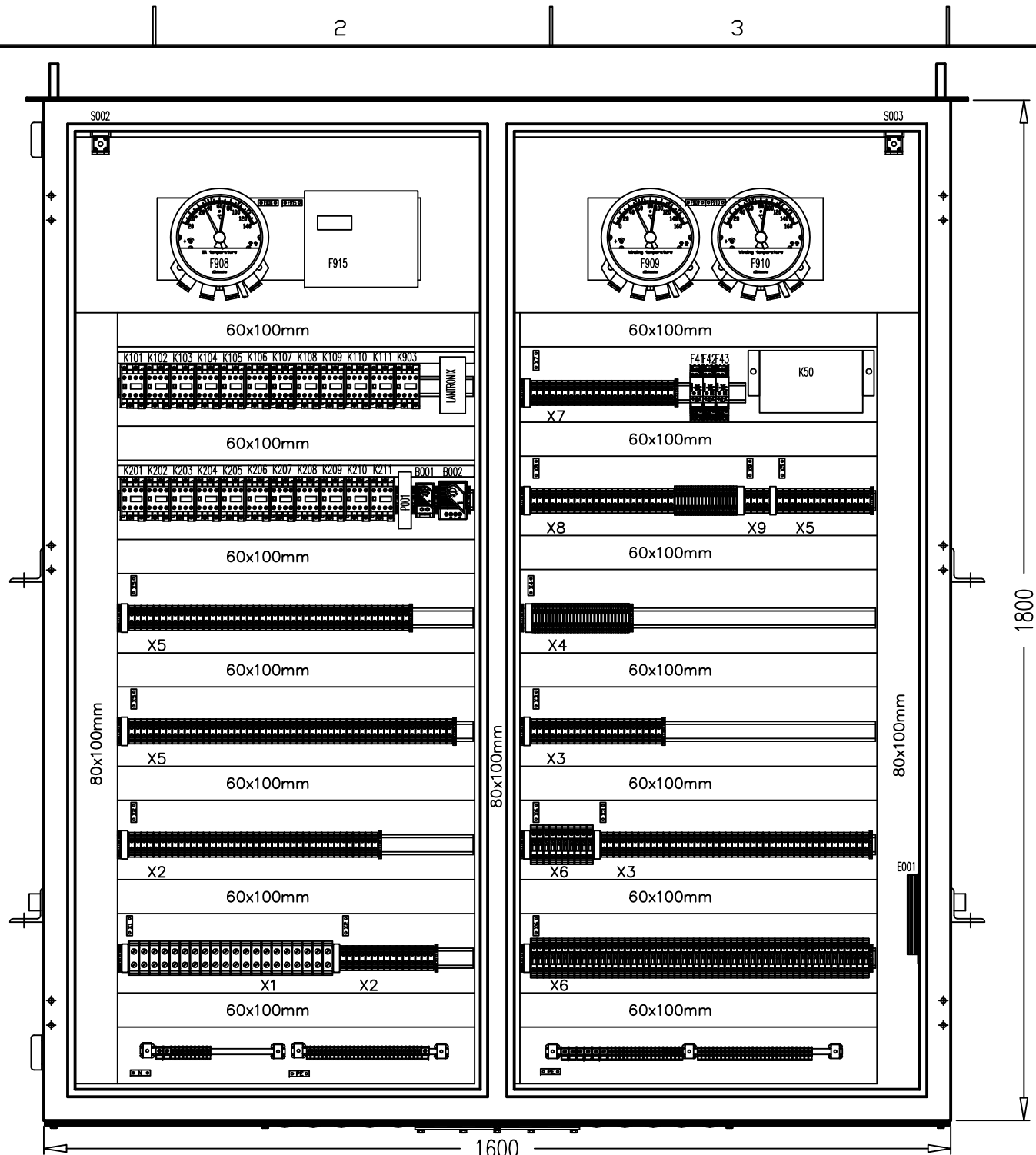
Design engineering review

ABB ELEKTRIK SANAYI A.S.

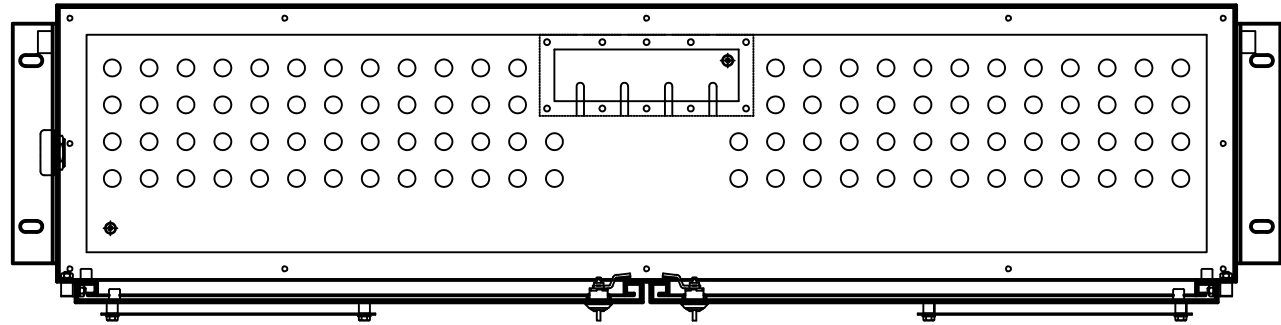
Based on	Reg.No.	Title	
Prepared SD	Responsible department GK	CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Approved SV	Take over department		Language en
Revision 02	Order No.	1ZTR120400	Sheet 03
ABB ABB Transformers	Drawing No.	1ZTR1204002400	Cont. 04

1ZTR1204002400

We reserve all rights in this document and in the information contained therein.Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB



1600  
INNER VIEW



Layout

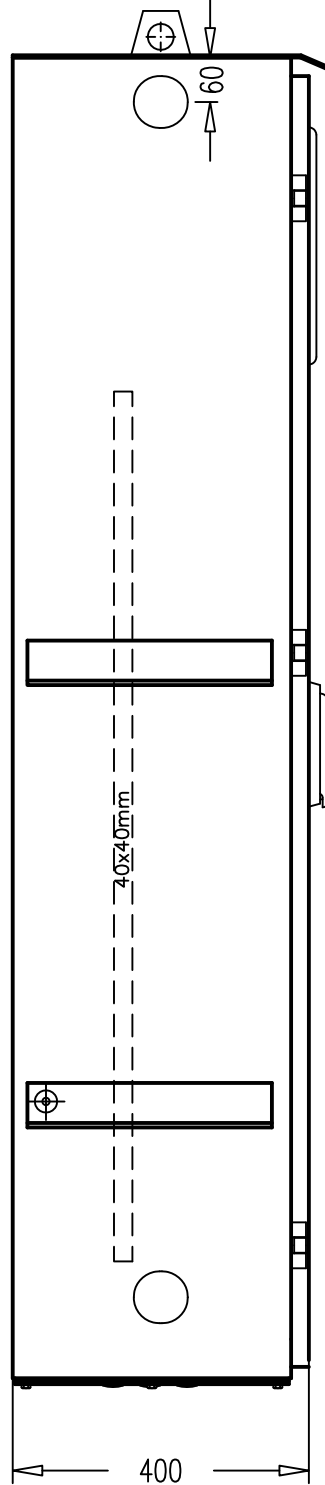
03	View Changed	-	26/01/13
02	View Changed	-	31/10/12
01	K50 Added	-	22/08/12
Rev. ind.	Revision	Appd.	Date

Production engineering review

Inspection engineering review

Design engineering review

Internal Wiring : Type 600/1000 V

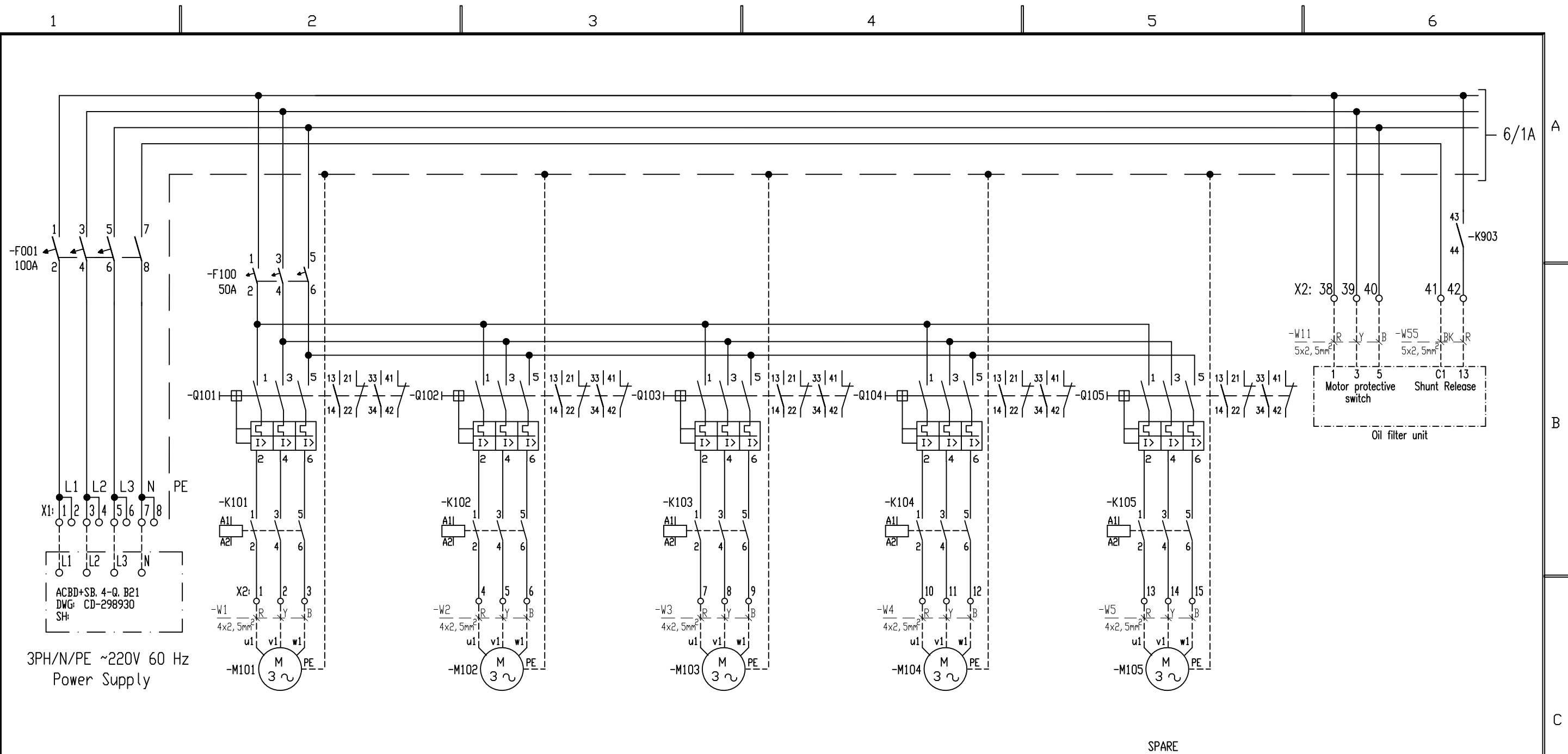


400  
SIDE VIEW

ABB ELEKTRIK SANAYI A.S.

Based on	Reg.No.	Title	
Prepared SD	Responsible department GK	CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Approved SV	Take over department		Language en
Revision 03		Order No. 1ZTR120400	Sheet 04
ABB Transformers		Drawing No. 1ZTR1204002400	Cont. 05

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB



Note : Thermal set value of Q101,Q102,Q103,Q104,Q105 : 5A

Power circuit of fan motors

03	Revised	-	13/03/14
02	Lineis Edited	-	31/10/12
01	W11 Line Edited	-	22/08/12
Rev. ind.	Revision	Appd.	Date

Production engineering review

Inspection engineering review

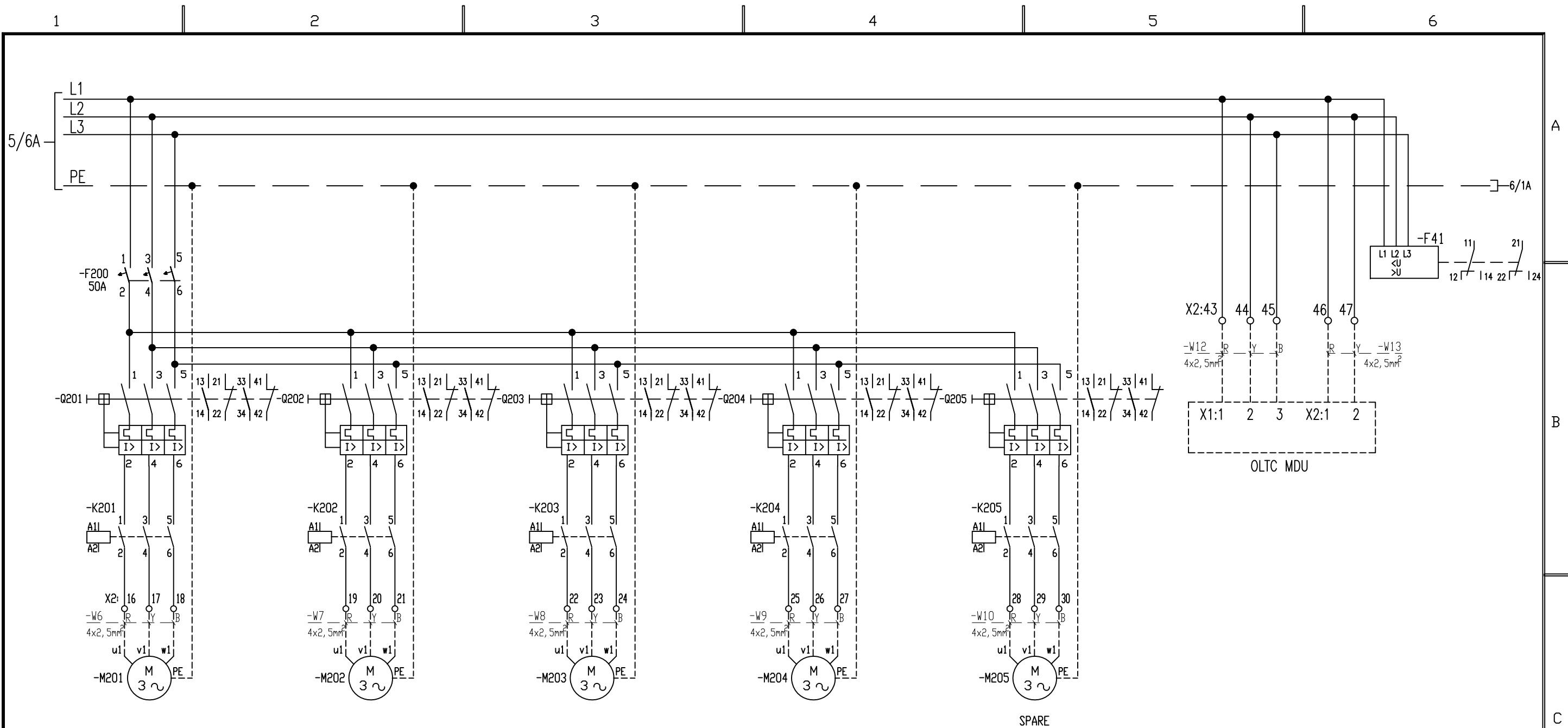
Design engineering review

ABB ELEKTRIK SANAYI A.S.

Based on	Reg.No.	CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department		
Revision 03	Order No. 1ZTR120400		Sheet 05
ABB Transformers		Drawing No. 1ZTR1204002400	
		Cont. 06	

1ZTR1204002400

We reserve all rights in this document and in the information contained therein.Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB



Note : Thermal set value of Q201,Q202,Q203,Q204,Q205 : 5A

Power circuit of fan motors

03	-F41 Added	-	26/01/13
02	Lineis Edited	-	31/10/12
01	Q201,.....,Q205 Names Edited	-	22/08/12
Rev. ind.	Revision	Appd.	Date

Production engineering review
Inspection engineering review
Design engineering review

ABB ELEKTRIK SANAYI A.S.			
Based on	Reg.No.	CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department		Language en
Revision 03		Order No. 1ZTR120400	Sheet 06
<b>ABB</b> ABB Transformers		Drawing No. 1ZTR1204002400	Cont. 07

1ZTR1204002400

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB

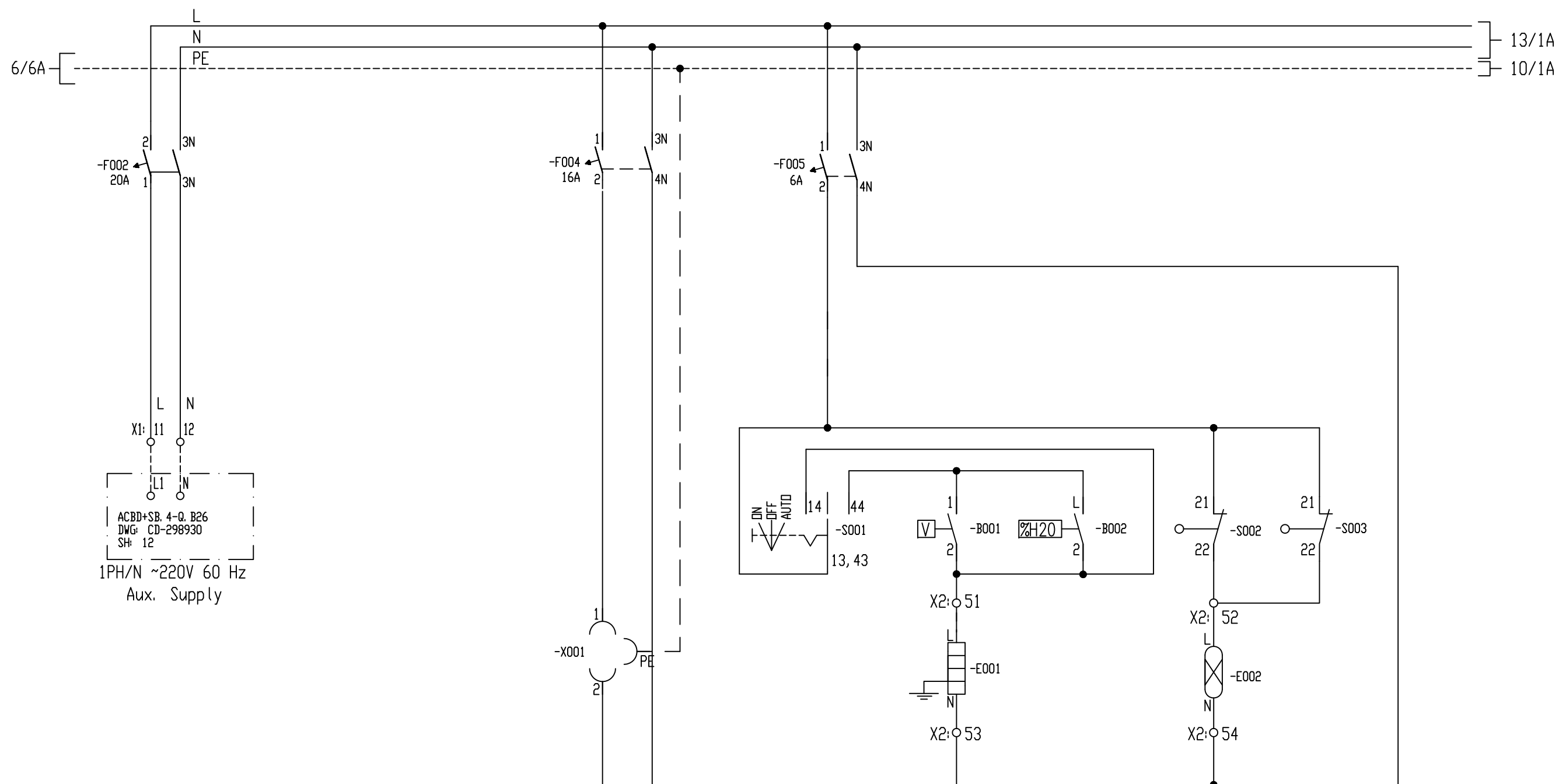

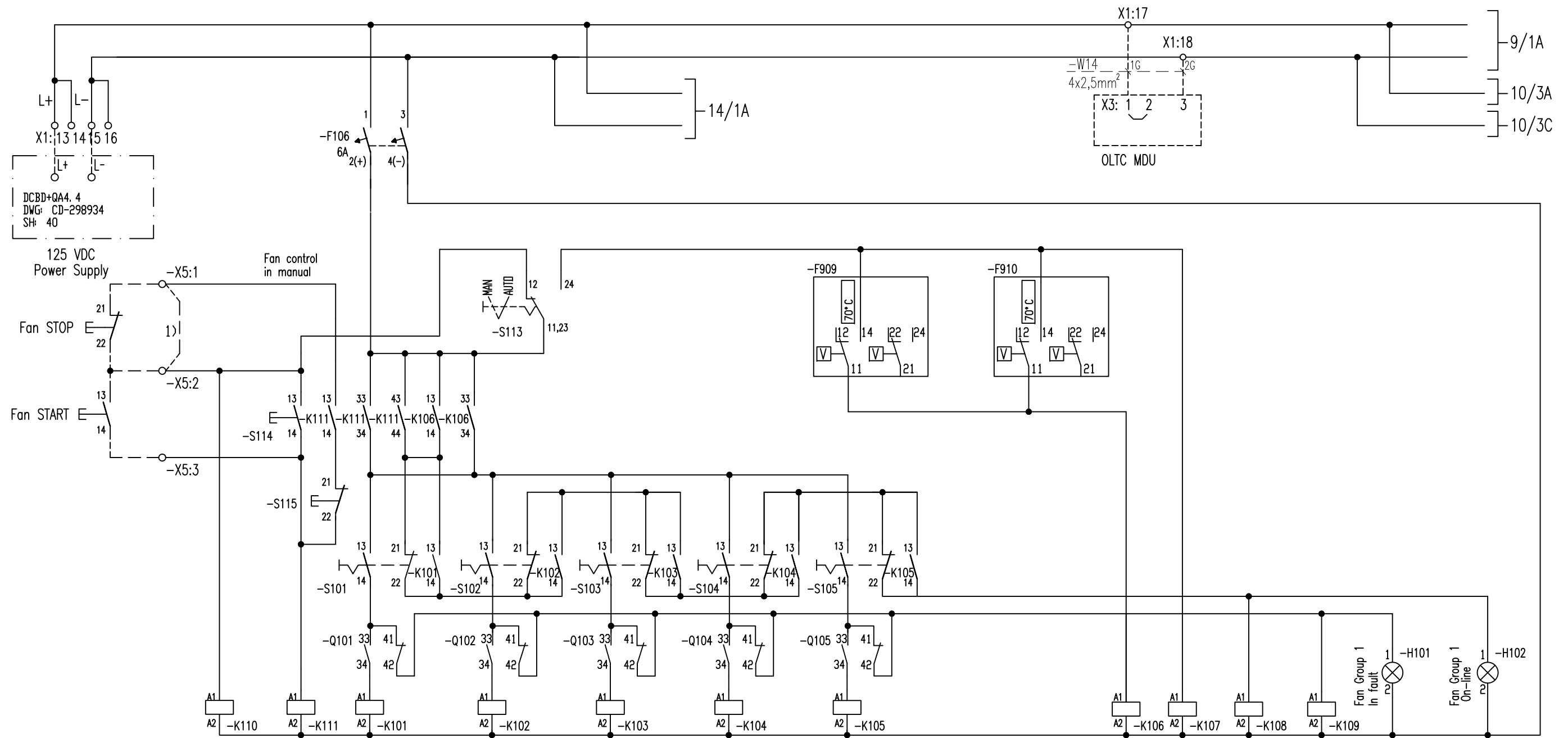


ABB ELEKTRİK SANAYİ A.Ş.

Based on	Reg.No.	Title  CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department		Language en
Revision 02		Order No. 1ZTR120400	Sheet 07
 ABB Transformers		Drawing No. 1ZTR1204002400	Cont. 08

**ABB** ABB Transformers

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB




1) Remove the link in case of using remote control buttons.

### Control circuit of fan Group 1 motors

03	Revised	–	13/03/14
02	Line edited	–	31/10/12
01	–F908 Removed	–	22/08/12
Rev. ind.	Revision	Appd.	Date

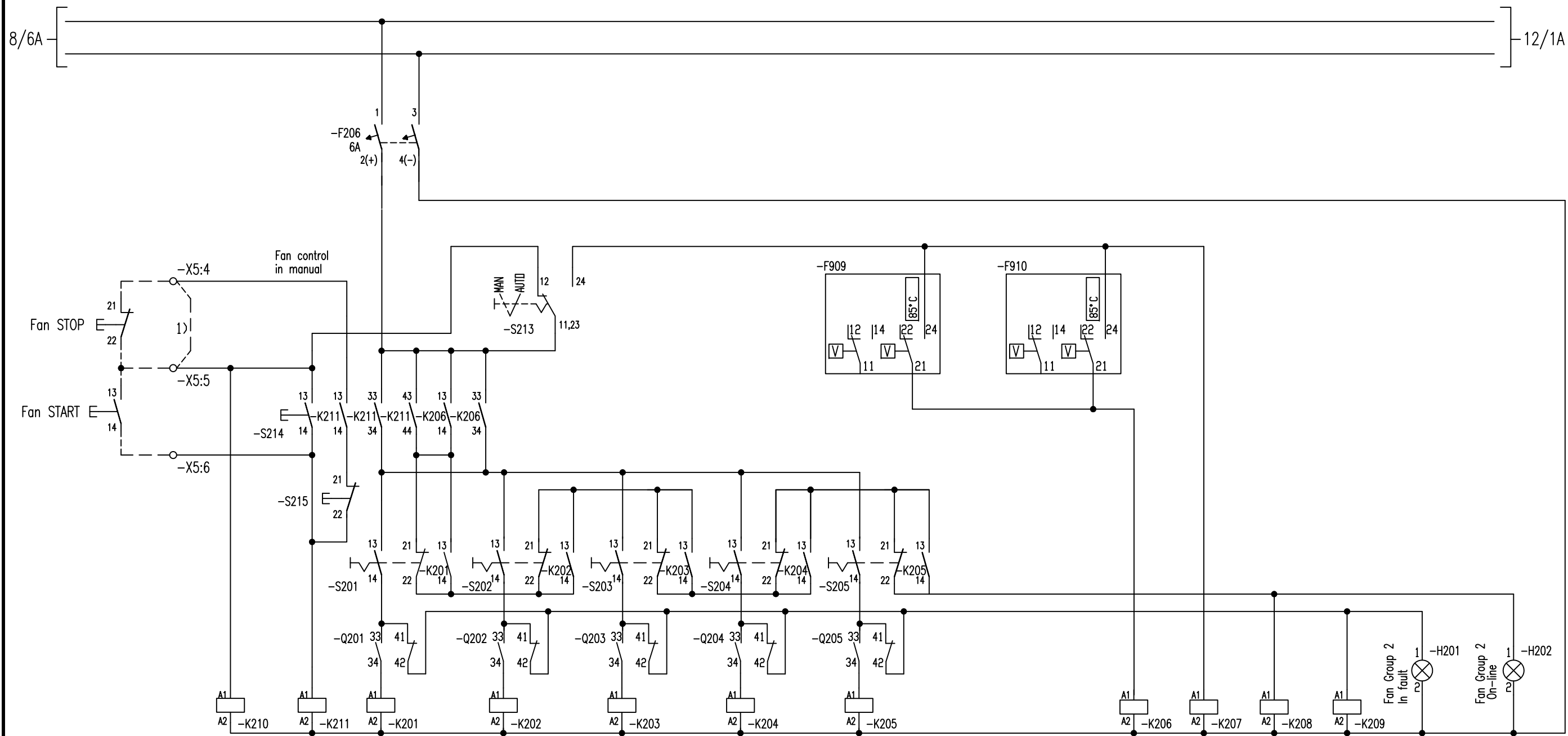
Production engineering review
Inspection engineering review
Design engineering review

ABB ELEKTRIK SANAYI A.S.			
Based on	Reg.No.	CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department		Language en
Revision 03		Order No. 1ZTR120400	Sheet 08
 ABB Transformers		Drawing No. 1ZTR1204002400	Cont. 09

**ABB** ABB Transformers



We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB



1) Remove the link in case of using remote control buttons.

Control circuit of fan Group 2 motors

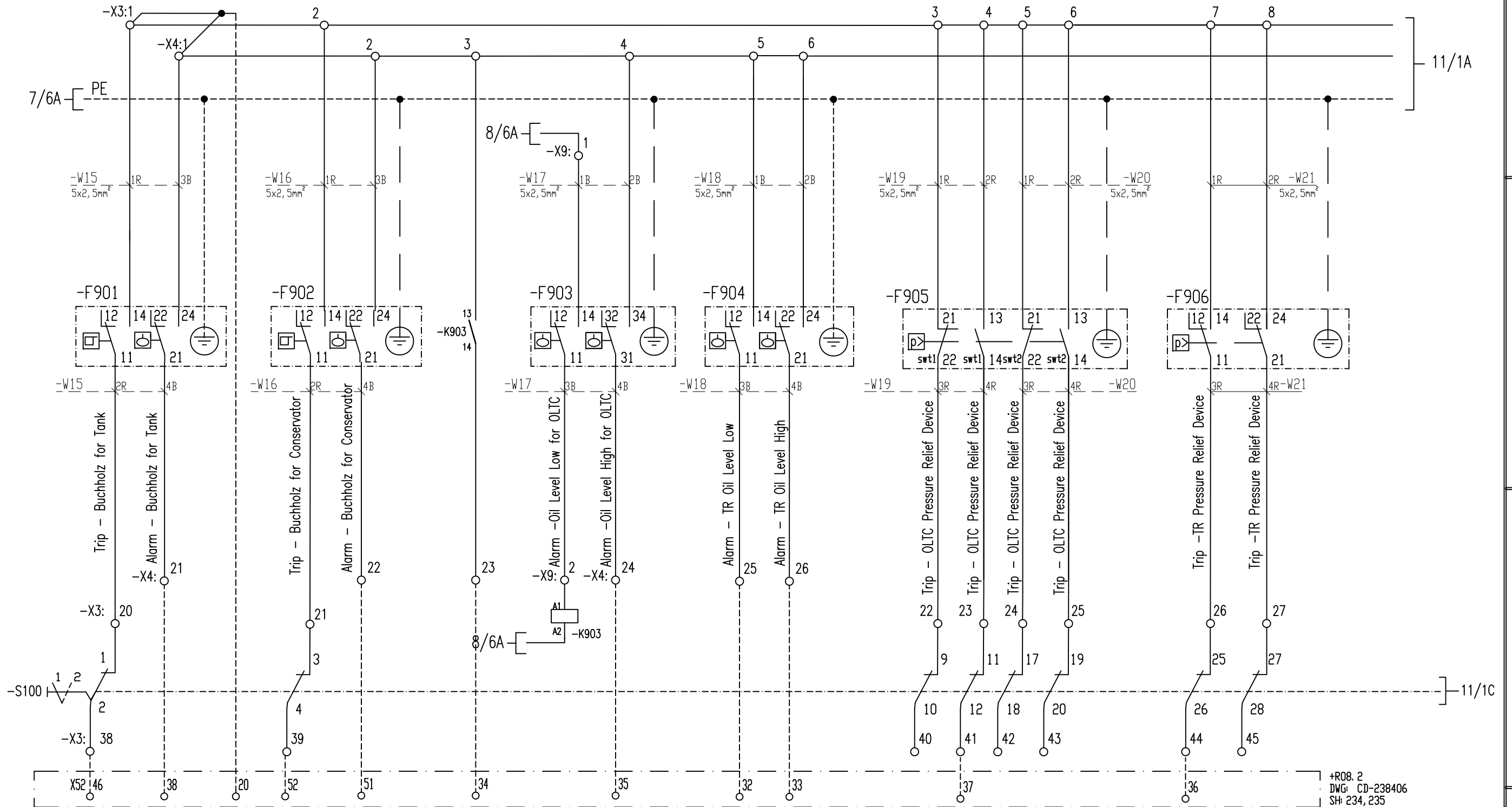
01	-F908 Removed	-	22/08/12
Rev. ind.	Revision	Appd.	Date

Production engineering review
Inspection engineering review
Design engineering review

ABB ELEKTRIK SANAYI A.S.			
Based on	Reg.No.	CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department		
Revision 01	Order No. 1ZTR120400		Sheet 09
ABB Transformers		Drawing No. 1ZTR1204002400	
		Cont. 10	

1ZTR1204002400

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB



- F901: Buchholz Relay for tank, EMB DR80  
-F902: Buchholz Relay for conservator (Leakage detection) EMB DR25  
-F903: Oil level indicator for OLTC, COMEM, Type LA22  
-F904: Oil level indicator for tank, COMEM, Type LB22  
-F905: Pressure relief device for OLTC, QUALITROL  
-F906: Pressure relief device for Tank, QUALITROL XPRD00-00017729
- Protection relays of power transformer

03	Revised	-	13/03/14
02	Lineis Edited	-	31/10/12
01	Terminal Numbers Changed	-	22/08/12
Rev. ind.	Revision	Appd.	Date

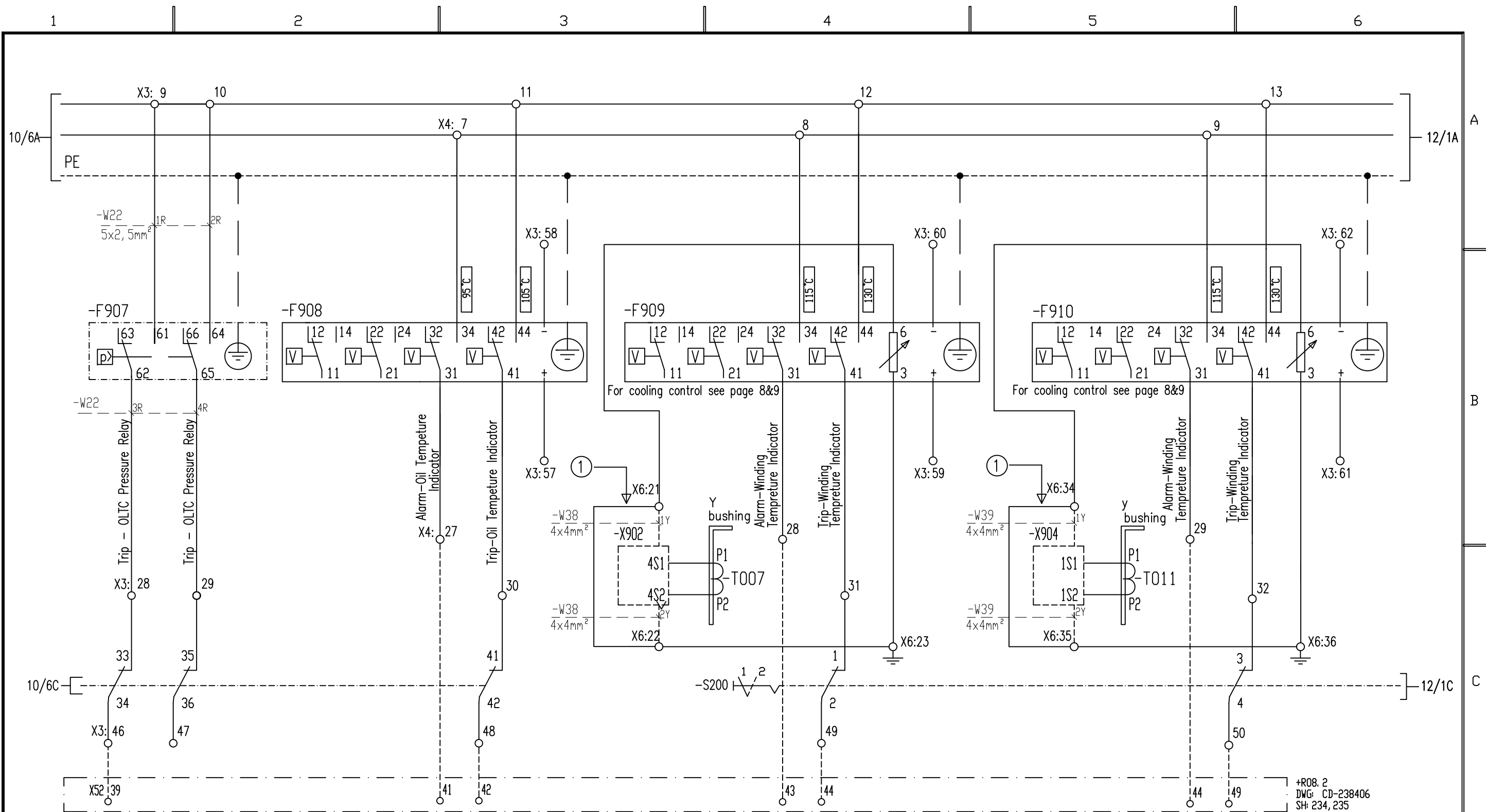
Production engineering review
Inspection engineering review
Design engineering review

## ABB ELEKTRIK SANAYI A.S.

Based on	Reg.No.	Title  CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department		Language en
Revision 03		Order No. 1ZTR120400	Sheet 10
ABB Transformers		Drawing No. 1ZTR1204002400	Cont. 11

1ZTR1204002400

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB



- F907: Pressure relay for OLTC  
-F908: Oil temperature indicator MESSKO, MT-ST 160SK /TT  
-F909: Winding temperature indicator for HV MESSKO, MT-ST 160W/TT  
-F910: Winding temperature indicator for LV MESSKO, MT-ST 160W/TT  
-T007: Current transformer 323 / 2; 10 VA ; 3Fs10 for HV winding temperature indication.  
-T011: Current transformer 2510 / 2; 10 VA ; 3Fs10 for LV winding temperature indication.  
-X904, -X902: Terminal box of current transformer.

WARNING : For the adjustment of the matching resistor for the heating current of the Winding temperature indicators see "Winding temperature [compact] Series" BA 2038 catalogue of MESSKO.  
For more information about Oil temperature indicator see "Oil temperature [compact] Series" BA 2038 catalogue of MESSKO.

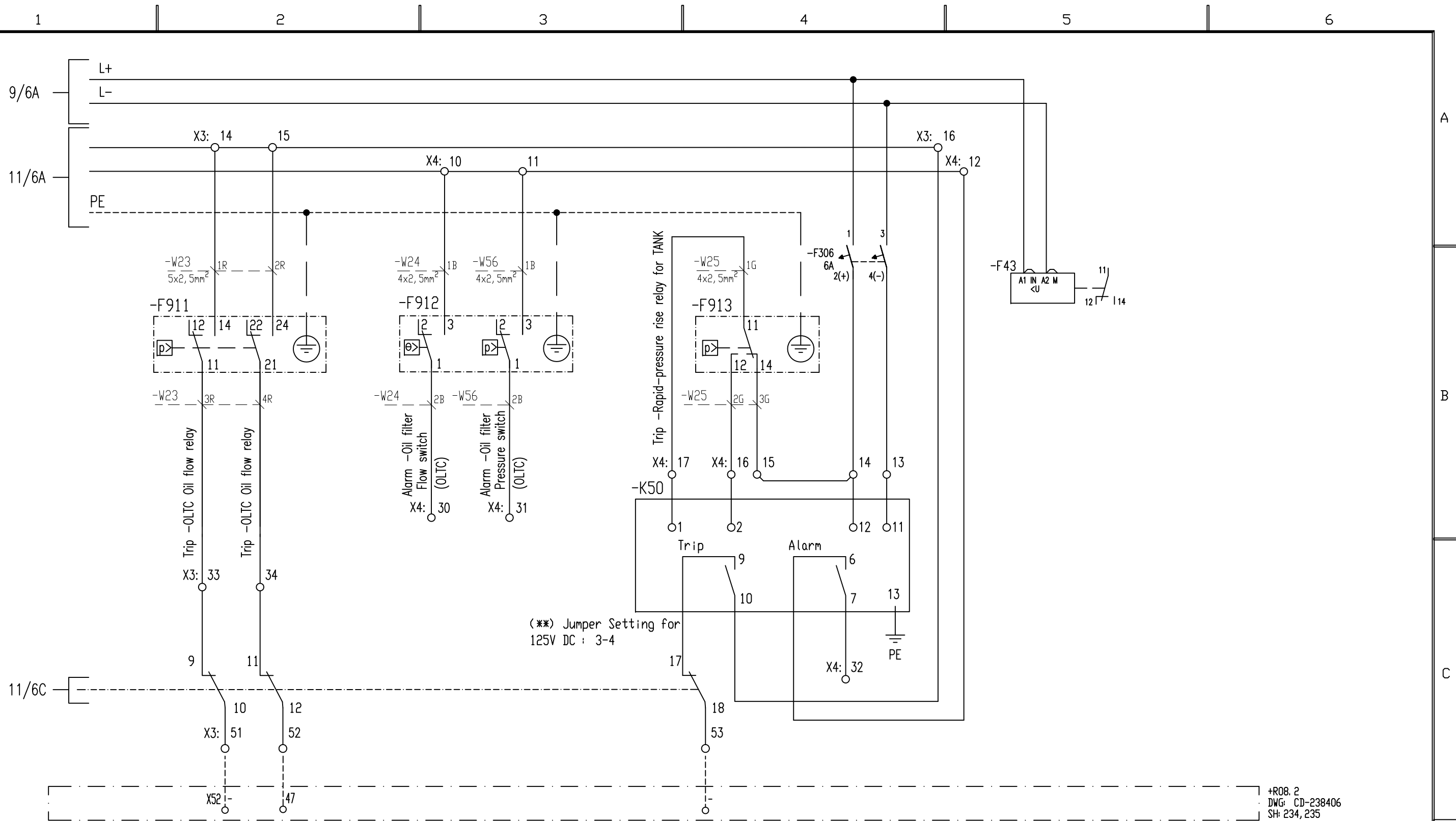
① When current transformer is in use, remove the connection.

## ABB ELEKTRIK SANAYI A.S.

Based on	Reg.No.	Title CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department		
Production engineering review	Revision 03	Order No. 1ZTR120400	Language en
Inspection engineering review	ABB Transformers		Sheet 11
Design engineering review			Cont. 12

1ZTR1204002400

We reserve all rights in this document and in the information contained therein.Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB



-F911:Oil flow relay for OLTC, EMB Type ÜRF 25/10-2  
-F912:Oil filter unit  
-F913:Sudden Pressure relay main tank, EBM Type ÜRF  
-K50 :Seal-in relay, QUALITROL 909-200-01  
WARNING : For the adjustment of the matching resistor for the heating current of the Winding temperature indicators see "Winding temperature [compact] Series" BA 2038 catalogue of MESSKO.  
For more information about Oil temperature indicator see "Oil temperature [compact] Series" BA 2038 catalogue of MESSKO.  
Protection relays of power transformer

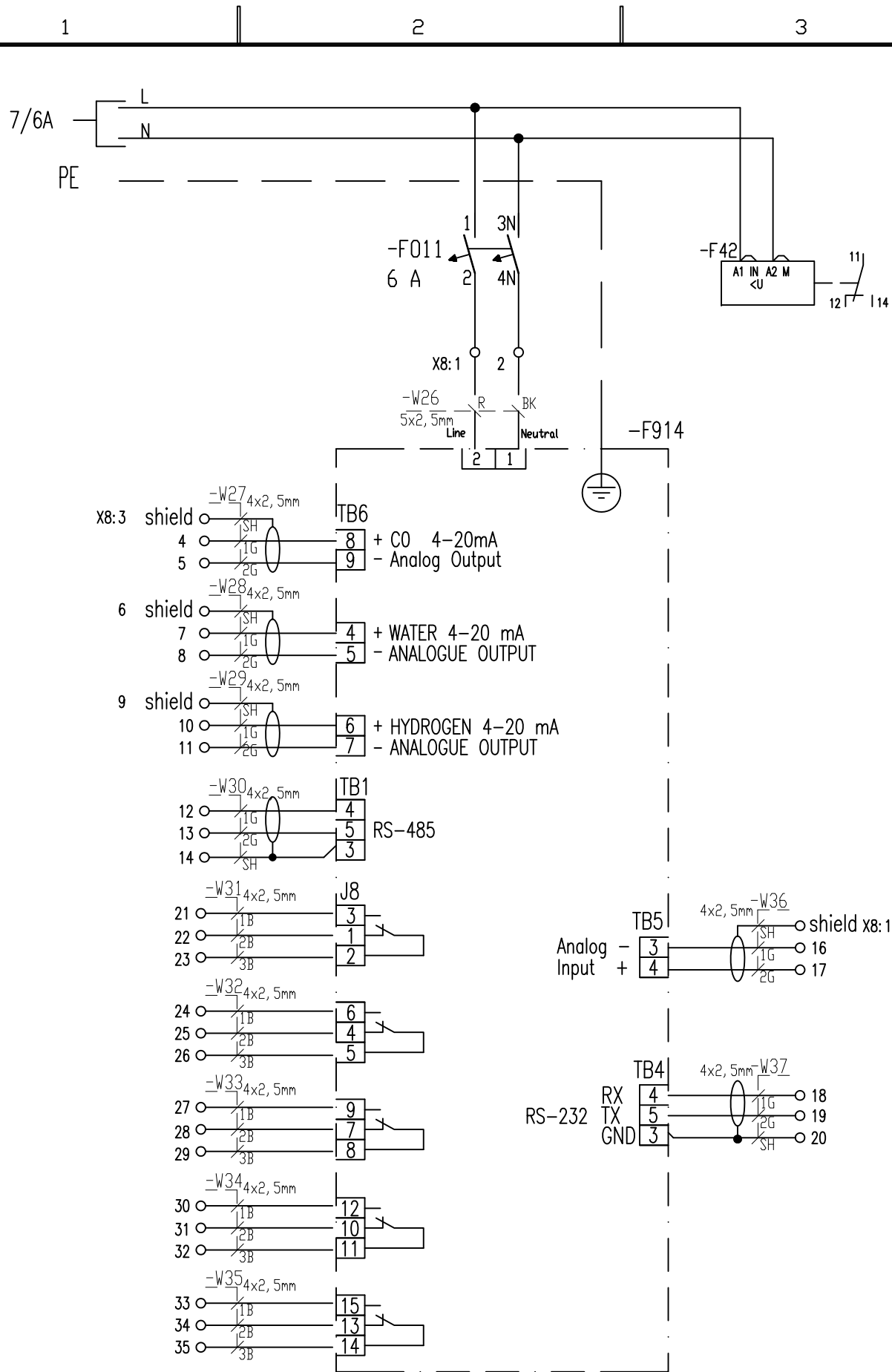
04	Revised	-	13/03/14
03	-F43 Added	-	26/01/13
02	Lineis Edited	-	31/10/12
01	-F306,K50 Added, Term. Num. Changed	-	22/08/12
Rev. ind.	Revision	Appd.	Date

Production engineering review
Inspection engineering review
Design engineering review

ABB ELEKTRIK SANAYI A.S.			
Based on	Reg.No.	CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department	Order No. 1ZTR120400	
Revision 04			
ABB Transformers		Drawing No. 1ZTR1204002400	Sheet 12
			Cont. 13

1ZTR1204002400

We reserve all rights in this document and in the information contained therein.Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB



-F914:Dissolved Gas Analyzer (MORGAN SCHAFFER CALISTO 2 )

02	-F42 Added	-	26/01/13
01	Devices Added	-	31/10/12
Rev. ind.	Revision	Appd.	Date

Production engineering review

Inspection engineering review

Design engineering review

ABB ELEKTRIK SANAYI A.S.

Based on

Reg.No.

Title

Prepared  
SD

Responsible department  
GK

CONTROL PANEL OF COOLING  
AND PROTECTIVE DEVICES

Approved  
SV

Take over department

Language  
en

Revision  
02

Order No.  
1ZTR120400

Sheet  
13

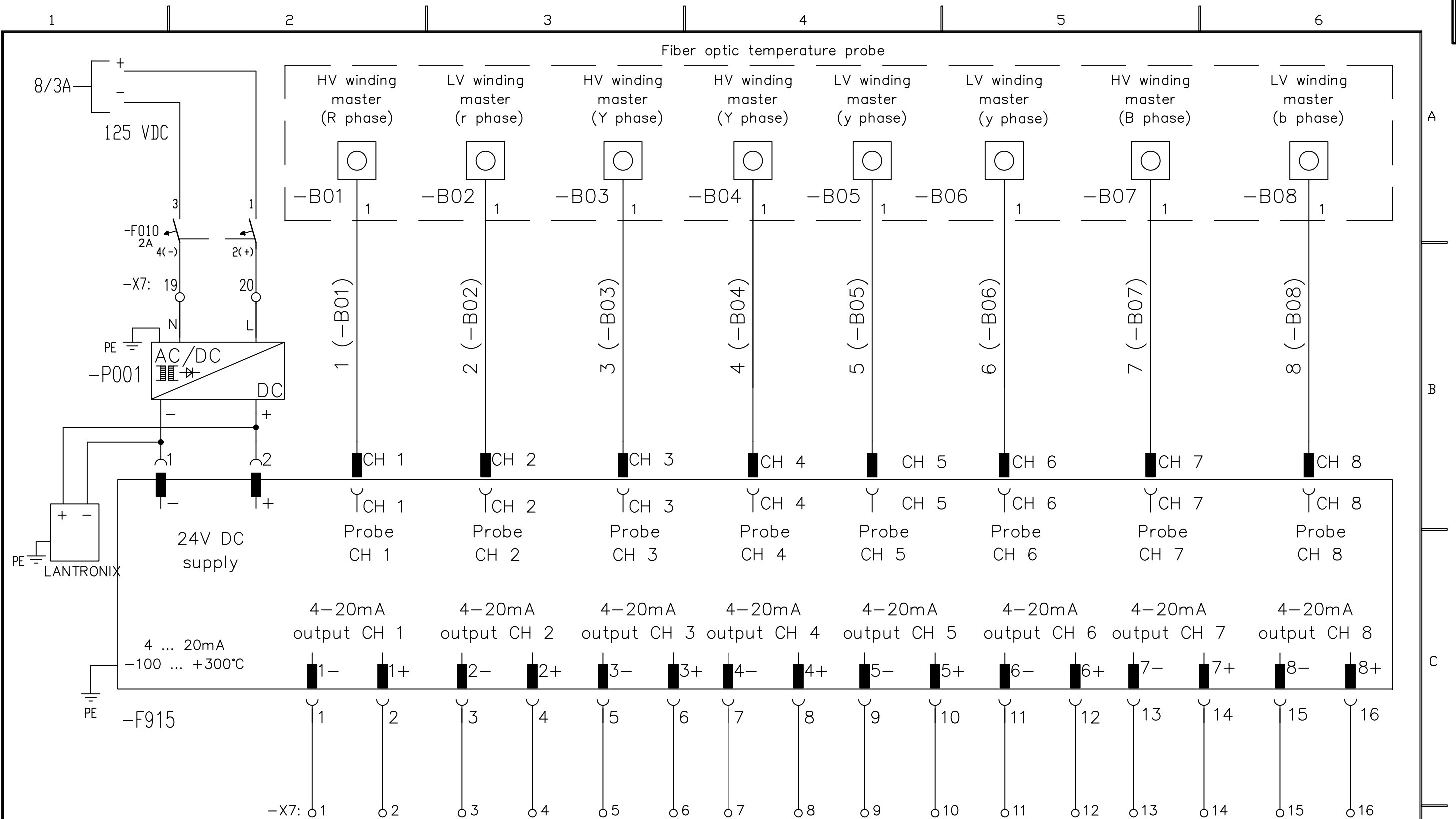
**ABB** ABB Transformers

Drawing No.  
1ZTR1204002400

Cont.  
14

1ZTR1204002400

We reserve all rights in this document and in the information contained therein.Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB



-F915: T/ Guard System, TGD-08-A2-C1-E1-D0  
-P001: Power unit, TGD-DPS

Fiber optic sensor (T/Guard)

02	-F915 Name Changed	-	31/10/12
01	-F914 Name Changed	-	22/08/12
Rev. ind.	Revision	Appd.	Date

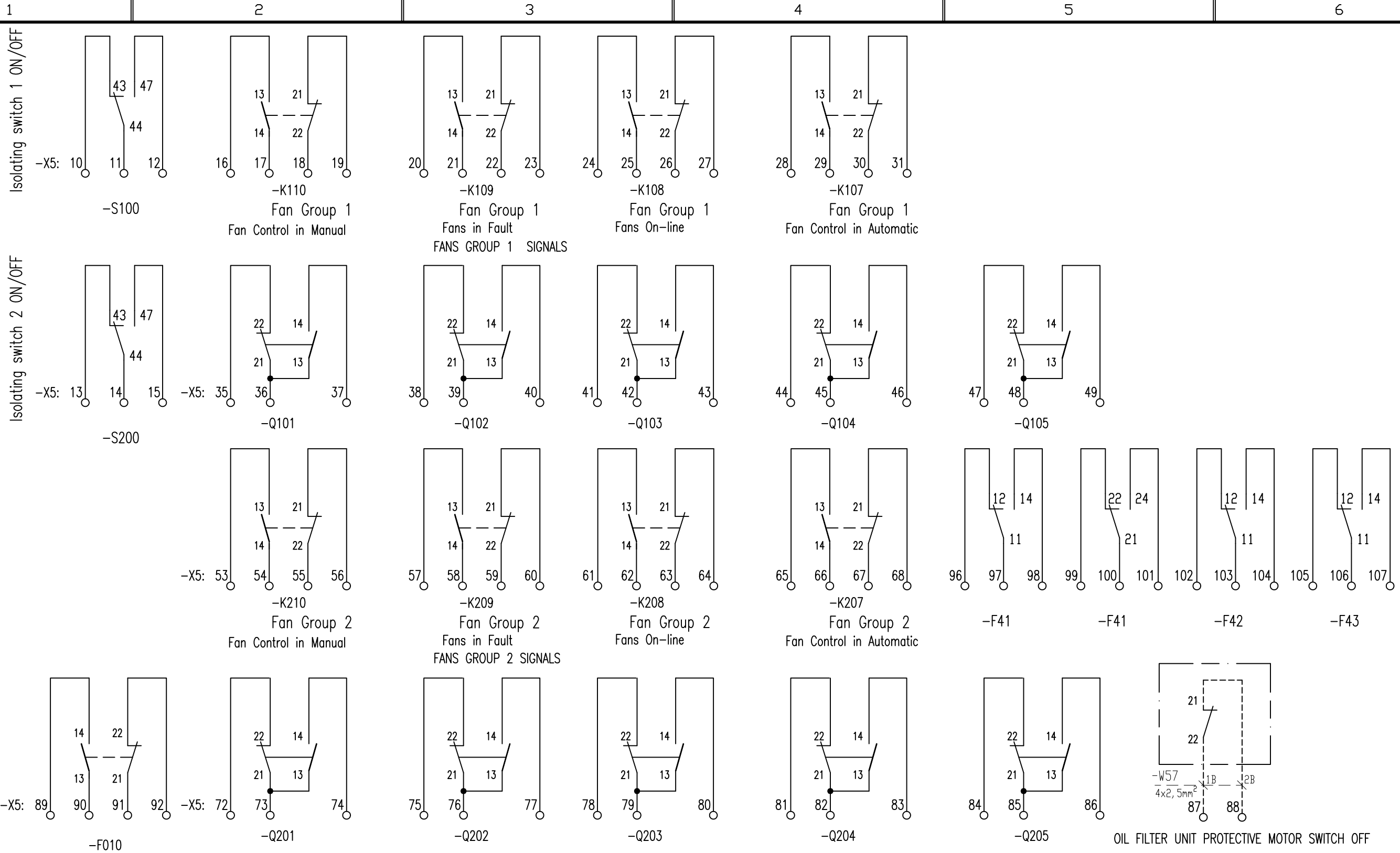
Production engineering review
Inspection engineering review
Design engineering review

ABB ELEKTRIK SANAYI A.S.

Based on	Reg.No.	Title	
Prepared SD	Responsible department GK	CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Approved SV	Take over department		Language en
Revision 02	Order No. 1ZTR120400	Sheet 14	
ABB Transformers		Drawing No. 1ZTR1204002400	Cont. 15

1ZTR1204002400

We reserve all rights in this document and in the information contained therein.Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB



## ABB ELEKTRIK SANAYI A.S.

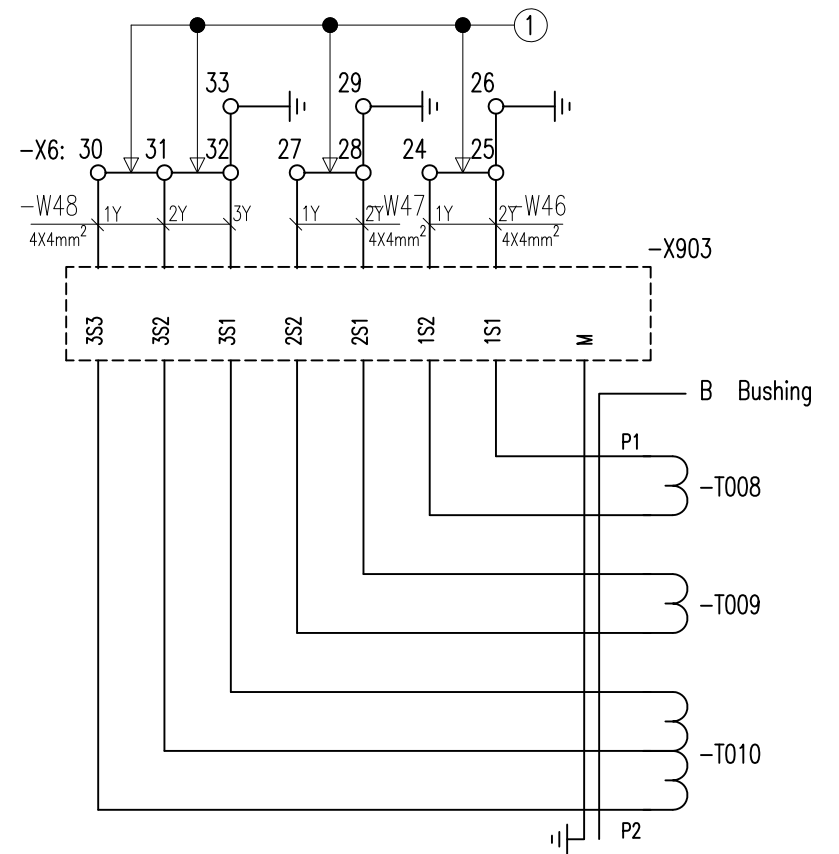
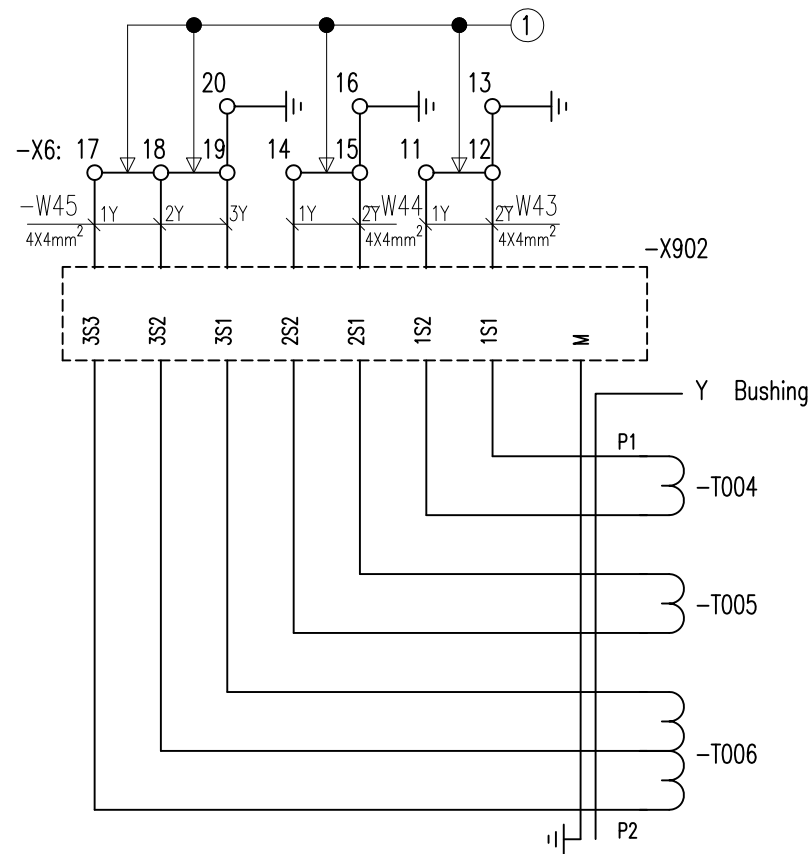
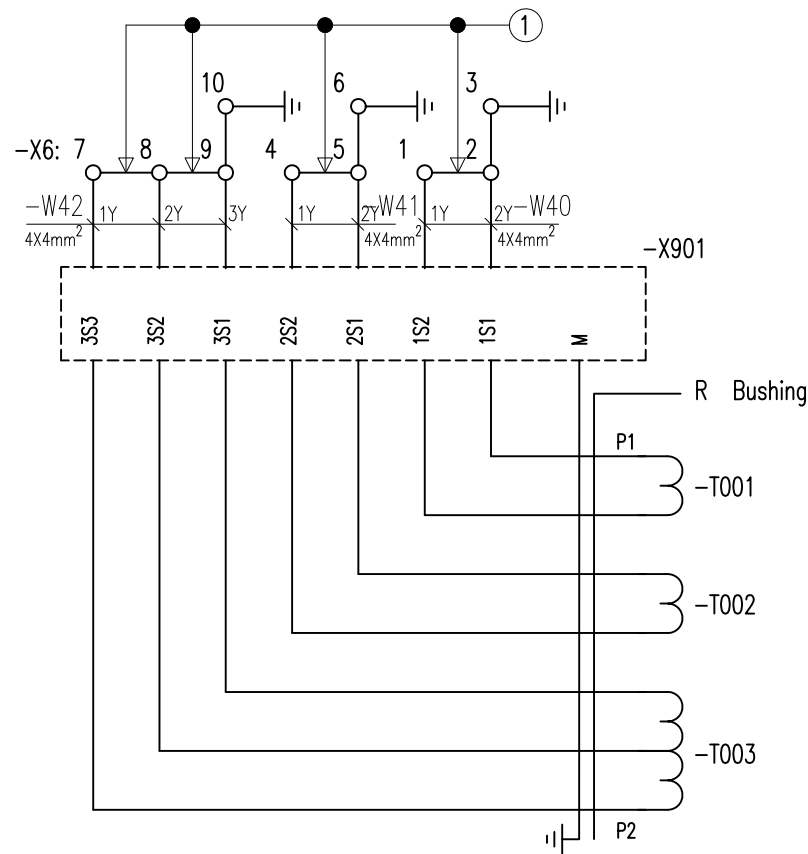
Based on	Reg.No.	CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	Language en
Prepared SD	Responsible department GK		
Approved SV	Take over department		
Production engineering review	Revision 02	Order No. 1ZTR120400	Sheet 15
Inspection engineering review	<b>ABB</b> ABB Transformers	Drawing No. 1ZTR1204002400	Cont. 16
Design engineering review			

Remote signals

02	Under Voltage Relay	-	26/01/13
01	Contact Numbers Changed	-	31/10/12
Rev. ind.	Revision	Appd.	Date

1ZTR1204002400

We reserve all rights in this document and in the information contained therein.Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB



- T001, -T004, -T008 : Current transformer 300/1A ; Class X ,  $V_k > 360$ ,  $R_{ct} < 1\Omega$ ,  $I_m < 50\text{mA}$  at  $V_k$   
-T002, -T005, -T009 : Current transformer 300/1A ; Class 10P10 , Burden 30 VA,  
-T003, -T006, -T010 : Current transformer 1200-800/1A ; Class X ,  $V_k > 1400$ ,  $R_{ct} < 2\Omega$ ,  $I_m < 25\text{mA}$  at lowest ratio  
-X901, -X902, -X903 : Terminal box of current transformer

① When current transformers are in use, remove the connection.

#### Current transformers

02	Line Numbers Changed	-	31/10/12
01	Line Numbers Changed	-	22/08/12
Rev. ind.	Revision	Appd.	Date

Production engineering review
Inspection engineering review
Design engineering review

## ABB ELEKTRIK SANAYI A.S.

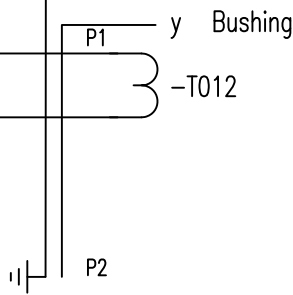
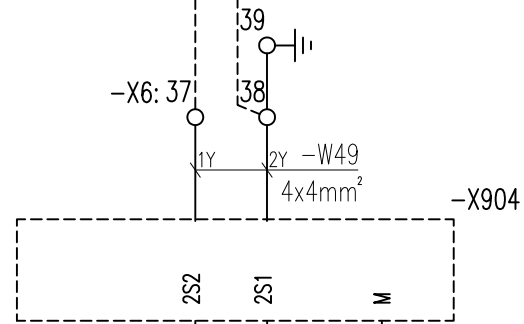
Based on	Reg.No.	Title	
Prepared SD	Responsible department GK	CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Approved SV	Take over department		Language en
Revision 02	Order No.	1ZTR120400	Sheet 16
ABB Transformers		Drawing No.	1ZTR1204002400
			Cont. 17

1ZTR1204002400

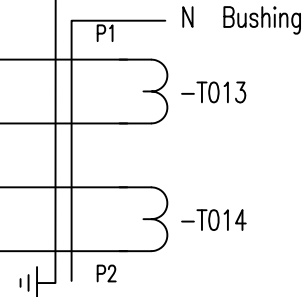
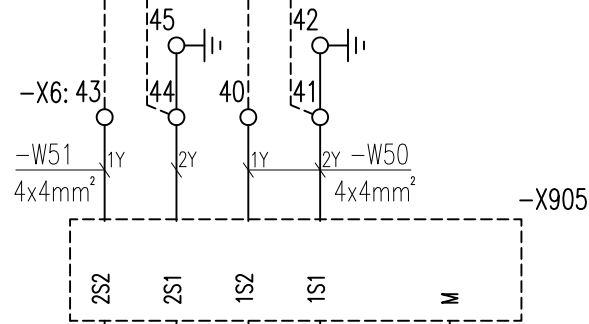


We reserve all rights in this document and in the information contained therein.Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB

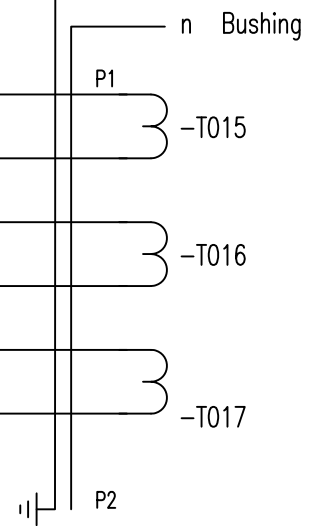
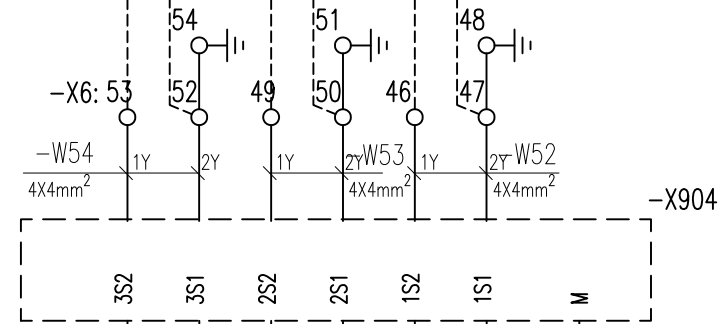
+AVC  
DWG: CD-238387  
SH: 222



+R08.1  
DWG: CD-238402  
SH: 223



+R08.1  
DWG: CD-238402  
SH: 222



- T013 -T014 : Current transformer 300/1A ; Class X ;  $V_k > 360V$ ,  $R_{ct} < 1\Omega$ ,  $I_m < 50mA$  at  $V_k$   
-T012 : Current transformer 2510/5A ; Class 0,5 , 50VA  
-T015 -T016 : Current transformer 3000/1A ; Class X ;  $V_k > 765V$ ,  $R_{ct} < 10\Omega$ ,  $I_m < 25mA$  at  $V_k$   
-T017 : Current transformer 800/1A ; Class ; 5P20, 15VA

-X904, -X905,: Terminal box of current transformer


① When current transformers are in use, remove the connection.

#### Current transformers

03	Revised	-	13/03/14
02	Line Numbers Changed	-	31/10/12
01	Line Numbers Changed	-	22/08/12
Rev. ind.	Revision	Appd.	Date

Production engineering review
Inspection engineering review
Design engineering review

## ABB ELEKTRIK SANAYI A.S.

Based on	Reg.No.	Title  CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department		Language en
Revision 03		Order No.  1ZTR120400	Sheet 17
 ABB Transformers		Drawing No.  1ZTR1204002400	Cont. 18

1ZTR1204002400

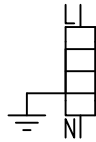


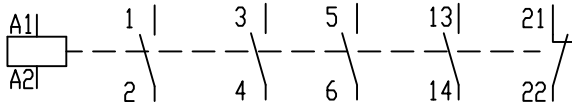
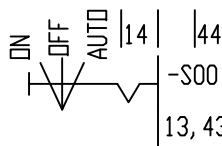
1		2		3		4		5		6					
Name of device Type Techn. data Label		Symbols for devices	Symbols, Current path from the schematic diagram					Name of device Type Techn. data Label		Symbols for devices	Symbols, Current path from the schematic diagram				
Triple pole MCB ABB S 203-C 50 3P 50A 6kA FAN GROUP 1 SUPPLY FAN GROUP 2 SUPPLY								Door command button Telemechanique ZCP-21							
		-F100	5/2B	5/2B	5/2B					-S002	7/5C				
		-F200	6/1B	6/1B	6/1B					-S003	7/5C				
Triple pole ABB S 284-C100 4P 100A 6kA POWER SUPPLY								Switch ABB M2SS2-10B+MCBH-00 MCB-10+MCB-01							
		-F001	5/1B	5/1B	5/1B	5/1B					-S101	8/2C	8/2C		
Double pole MCB ABB S 201-NA C16 1P+N 16A 6kA								M101 OFF-ON M102 OFF-ON M103 OFF-ON M104 OFF-ON M105 OFF-ON M201 OFF-ON M202 OFF-ON M203 OFF-ON M204 OFF-ON M205 OFF-ON		-S102	8/3C	8/3C			
		-F004	7/3B	7/3B						-S103	8/3C	8/3C			
Double pole MCB ABB S 201-NA C6 1P+N 6A 6kA								Push button ABB MP1-10G+MCBH-00+MCB-10 MP1-10R+MCBH-00+MCB-01		-S104	8/3C	8/3C			
		-F011	13/2A	13/2A						-S105	8/4C	8/4C			
		-F005	7/4B	7/4B						-S201	9/2C	9/2C			
Double pole MCB ABB S 201-NA C20 1P+N 20A 6kA								FAN GROUP 1 START FAN GROUP 1 STOP FAN GROUP 2 START FAN GROUP 2 STOP		-S202	9/3C	9/3C			
		-F002	7/1B	7/1B						-S203	9/3C	9/3C			
Double-pole MCB ABB S 282-UC K6A 2P 6A 6kA FAN GROUP 1 CONTROL SUPPLY FAN GROUP 2 CONTROL SUPPLY SEAL-IN RELAY CONTROL SUPPLY								Selector switch ABB M2SS2-10R+MCBH-00 MCB-10+MCB-01		-S204	9/3C	9/3C			
		-F106	8/2B	8/2B						-S205	9/4C	9/4C			
		-F206	9/2B	9/2B						-S114	8/2B				
		-F306	12/4B	12/4B						-S115		8/2C			
Double-pole MCB ABB S 282-UC K2A, 2A 1NO + 1NC Aux. contact S2-H11 T/GUARD SYSTEM								FAN GROUP 1 MAN. /AUTO. FAN GROUP 2 MAN. /AUTO.		-S214	9/2B				
		-F010	14/1B	14/2B	15/2C	15/2C				-S215		9/2C			
In addition to the outdoor labels, all devices will be labelled in the cubicle with the abbreviations.															
Device table				Production engineering review		ABB ELEKTRIK SANAYI A.S.									
						Based on		Reg.No.		Title					
						Prepared SD		Responsible department GK		CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES					
						Approved SV		Take over department		Language en					
				Inspection engineering review		Revision 02				Order No. 1ZTR120400					
				Design engineering review		ABB Transfomers				Sheet 18					
										Drawing No. 1ZTR1204002400					
										Cont. 19					

A

B

C

D

Name of device Type Techn. data Label	Symbols for devices	Symbols, Current path from the schematic diagram					
Heater STEGO HG 140, 60W, 220VAC							
	-E001	7/4C					
Illumination lamp 1*8W, 220VAC ALLROUND							
	-E002	7/5C					
Signal lamp ABB ML1-100R+MCBH-00+MLBL-05R ML1-100G+MCBH-00+MLBL-05G Fan Group 1 in fault Fan Group 1 on-line Fan Group 2 in fault Fan Group 2 on-line							
	-H101	8/6C					
	-H102	8/6C					
	-H201	9/6C					
	-H202	9/6C					
Contactor ABB AF09-30-10-13 125 V DC							
	-K101	8/2C	5/2B	5/2B	5/2B	8/2C	
	-K102	8/3C	5/3B	5/3B	5/3B	8/3C	
	-K103	8/3C	5/3B	5/3B	5/3B	8/2C	
	-K104	8/4C	5/4B	5/4B	5/4B	8/3C	
	-K105	8/4C	5/5B	5/5B	5/5B	8/3C	
	-K201	9/2C	6/1B	6/1B	6/1B	9/4C	
	-K202	9/3C	6/2B	6/2B	6/2B	9/2C	
	-K203	9/3C	6/3B	6/3B	6/3B	9/3C	
	-K204	9/4C	6/3B	6/3B	6/3B	9/3C	
	-K205	9/4C	6/4B	6/4B	6/4B	9/4C	
Selector switch ABB M3SSC1-10B + MCBH-00 2*MCB-10							
	-S001	7/4C					
Heater ON-OFF-AUTO	-S001						

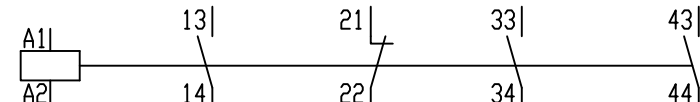
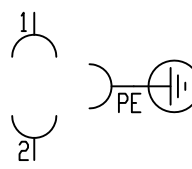
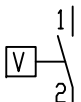
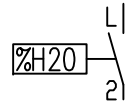
Device table

01	Material List Chnaged	-	31/10/12
Rev. ind.	Revision	Appd.	Date

Production engineering review

Inspection engineering review

Design engineering review

Name of device Type Techn. data	Symbols for devices	Symbols, Current path from the schematic diagram					
Aux. contactor ABB NF31E-13 125 V DC							
	-K106	8/5C	8/2B		8/2B		
	-K107	8/5C	15/4A	15/5A			
	-K108	8/5C	15/4A	15/4A			
	-K109	8/5C	15/3A	15/3A			
	-K110	8/2C	15/2A	15/2A			
	-K111	8/2C	8/2B		8/2B	8/3B	
	-K206	9/5C	9/2B		9/2B		
	-K207	9/5C	15/4A	15/5A			
	-K208	9/5C	15/4A	15/4A			
	-K209	9/5C	15/3A	15/3A			
	-K210	9/2C	15/2A	15/2A			
SOCKET SCHNEIDER-ELECTRIC PKY16F423  220V 60Hz, 16A							
	-X001	7/3C					
Thermostat STEGO KTD 011 0-60 °C							
	-B001	7/4C					
Humidistad STEGO MFR 012 35...+95°C  35... 95% rF							
	-B002	7/4C					

In addition to the outdoor labels, all devices will be labelled in the cubicle with the abbreviations.

ABB ELEKTRIK SANAYI A.S.

Based on	Reg.No.	Title	
Prepared SD	Responsible department GK	CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Approved SV	Take over department		
Revision 01	Order No. 1ZTR120400		Sheet 19
ABB Transformers		Drawing No. 1ZTR1204002400	Cont. 20

Name of device Type Techn. data Label	Symbols for devices	Symbols, Current path from the schematic diagram					
Circuit - Breaker ABB MS116-6.3 4-6,3A HK1-11 1NO+1NC Aux. contact HKF1-11 1CO Aux. contact -Q101 -Q102 -Q103 -Q104 -Q105 -Q201 -Q202 -Q203 -Q204 -Q205							
Isolating switch Kraus Naimer CA10-A376-600							
	-Q101	5/2B	8/2C	8/2C	15/2B		
	-Q102	5/3B	8/2C	8/2C	15/3B		
	-Q103	5/3B	8/3C	8/3C	15/4B		
	-Q104	5/4B	8/4C	8/4C	15/5B		
	-Q105	5/4B	8/4C	8/4C	15/5B		
	-Q201	6/2B	9/2C	9/2C	15/2B		
	-Q202	6/3B	9/2C	9/2C	15/3B		
	-Q203	6/3B	9/3C	9/3C	15/4B		
	-Q204	6/4B	9/4C	9/4C	15/5B		
	-Q205	6/4B	9/4C	9/4C	15/5B		
	-S100	10/1C	10/4C	10/4C	10/4C	10/5C	10/5C
	-S200	11/6C	12/2C	12/2C			

Name of device Type Techn. data Label	Symbols for devices	Symbols, Current path from the schematic diagram					
Fan motor FC100 220 VAC. 3Phase. Star 1,2 / 1,3kW 470rpm (nom.)							
	-M101	5/2C					
	-M102	5/3C					
	-M103	5/3C					
	-M104	5/4C					
	-M105	5/5C					
	-M201	6/1C					
	-M202	6/2C					
	-M203	6/3C					
	-M204	6/4C					
	-M205	6/4C					
Under Voltage Siemens 3UG46 15-1CR20							
-F41	-F41	6/6A	15/5B	15/5B			
Under Voltage Siemens 3UG46 32-1AW30							
-F42	-F42	13/3A	15/6B				
-F43	-F43	12/5A	15/6B				

In addition to the outdoor labels, all devices will be labelled in the cubicle with the abbreviations.

Device table

02	Material List Chnaged	-	26/01/13
01	Material List Chnaged	-	31/10/12
Rev. ind.	Revision	Appd.	Date

Production engineering review

Inspection engineering review

Design engineering review

ABB ELEKTRIK SANAYI A.S.

Based on

Reg.No.

Title

Prepared  
SD

Responsible department  
GK

CONTROL PANEL OF COOLING  
AND PROTECTIVE DEVICES

Approved  
SV

Take over department

Language  
en

Revision  
02

Order No.  
1ZTR120400

Sheet  
20

**ABB** ABB Transformers

Drawing No.  
1ZTR1204002400

Cont.  
21

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB

[illegible]


Terminal type: Phoenix OTTA-25

R : RED  
Y : YELLOW  
B : BLUE  
G : GREY  
G/Y : GREEN/YELLOW  
BK : BLACK

Terminals -X1

02	Revised	–	13/03/14
01	Terminal Plan Changed	–	31/10/12
Rev. ind.	Revision	Appd.	Date

Production engineering review
Inspection engineering review
Design engineering review

ABB ELEKTRIK SANAYI A.S.			
Based on	Reg.No.	CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department		Language en
Revision 02		Order No. 1ZTR120400	Sheet 21
 ABB Transformers		Drawing No. 1ZTR1204002400	Cont. 22

1ZTR1204002400

1ZTR1204002400

Terminal type: Phoenix OTTA–6				R : RED		ABB ELEKTRIK SANAYI A.S.					
				Y : YELLOW		Based on		Reg.No.		CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
				B : BLUE		Prepared SD		Responsible department GK			
				G : GREY		Approved SV		Take over department			
G/Y : GREEN/YELLOW				G/Y : GREEN/YELLOW		Revision 03		Order No. 1ZTR120400		Sheet 22	
BK : BLACK				BK : BLACK		Design engineering review		Drawing No. 1ZTR1204002400		Cont. 23	
Terminals –X2				Production engineering review		ABB ABB Transformers					
03 02 01				Terminal Plan Changed Terminal Plan Changed Terminal Plan Changed		– – –		26/01/13 31/10/12 22/08/12		Inspection engineering review	
Rev. ind.				Revision		Appd.		Date			

D

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB

1ZTR1204002400

[illegible]


Terminal type: Phoenix OTTA-6

Terminals -X2

R : RED  
Y : YELLOW  
B : BLUE  
G : GREY  
G/Y : GREEN/YELLOW  
BK : BLACK

				Inspection engineering review	Revision 00	Order No. 1ZTR120400	Sheet 23
Rev. ind.	Revision	Appd.	Date	Design engineering review	<b>ABB</b> ABB Transformers	Drawing No. 1ZTR1204002400	Cont. 24

ABB ELEKTRİK SANAYİ A.Ş.

Based on	Reg.No.	Title  CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department		Language en
Revision 00		Order No. 1ZTR120400	Sheet 23
 ABB Transformers		Drawing No. 1ZTR1204002400	Cont. 24


We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB

[illegible]

Terminal type: Phoenix OTTA-6

R : RED  
Y : YELLOW  
B : BLUE  
G : GREY  
G/Y : GREEN/YELLOW  
BK : BLACK

ABB ELEKTRİK SANAYİ A.Ş.

Based on	Reg.No.	Title  CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department		Language en
Revision 04		Order No.  1ZTR120400	Sheet 24
 ABB Transformers		Drawing No.  1ZTR1204002400	Cont. 25

1ZTR1204002400



We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB

1ZTR1204002400

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB


Terminal type: Phoenix OTTA-6

R : RED  
Y : YELLOW  
B : BLUE  
G : GREY  
G/Y : GREEN/YELLOW  
BK : BLACK

Terminals -X5

01	Terminal Plan Changed	–	31/10/12
Rev. ind.	Revision	Appd.	Date

Production engineering review
Inspection engineering review
Design engineering review

ABB ELEKTRIK SANAYI A.S.			
Based on	Reg.No.	CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department		Language en
Revision 01		Order No. 1ZTR120400	Sheet 27
 ABB Transformers		Drawing No. 1ZTR1204002400	Cont. 28

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB

1ZTR1204002400

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB

1ZTR1204002400

[illegible]

1ZTR1204002400

A

B

C

D

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB

1ZTR1204002400

[illegible]

We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB

1ZTR1204002400



1ZTR1204002400

Terminal type: Phoenix 1..20 : OTTA-6

Terminal type: Phoenix 21..40 : UK5 MTK P/P

SH: Shield

R : RED

Y : YELLOW

B : BLUE

G : GREY

G/Y : GREEN/YELLOW

BK : BLACK

ABB ELEKTRIK SANAYI A.S.

Based on

Prepared

SD

Approved

SV

Production engineering review

Inspection engineering review

Design engineering review

Reg.No.

Responsible department

GK

Take over department

Revision

01

ABB Transformers

Title

CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES

Order No.

1ZTR120400

Drawing No.

1ZTR1204002400

Language

en

Sheet

33

Cont.

34

Terminals -X8

01	Terminal Plan Changed	-	31/10/12
Rev. ind.	Revision	Appd.	Date

1ZTR1204002400


We reserve all rights in this document and in the information contained therein. Reproduction, use or disclosure to third parties without express authority is strictly forbidden. ©ABB

[illegible]

Terminal type: Phoenix : OTTA-6

R : RED  
Y : YELLOW  
B : BLUE  
G : GREY  
G/Y : GREEN/YELLOW  
BK : BLACK

ABB ELEKTRİK SANAYİ A.Ş.

Based on	Reg.No.	Title  CONTROL PANEL OF COOLING AND PROTECTIVE DEVICES	
Prepared SD	Responsible department GK		
Approved SV	Take over department		Language en
Revision 02		Order No.  1ZTR120400	Sheet 34
 ABB Transformers		Drawing No.  1ZTR1204002400	Cont. —

Terminals -X9

02	Terminal Plan Changed	—	26/01/13
01	Terminal Plan Changed	—	31/10/12
Rev. ind.	Revision	Appd.	Date

**ABB** ABB Transformers